



**PRODUCT**  
CATALOGUE







**Advanced Lubrication Solutions**

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## Advanced Lubrication Solutions

SLIDER SA is operating for more than 50 years in the area of lubricants design and production for automotive, industrial, agricultural and marine applications.

By applying strict quality acceptance criteria, sometimes stricter than those required by international and EU legislation, SLIDER can fulfill every customer need with high quality products that withstand even the toughest operating conditions.

We closely follow up the rapid technological developments, by re-designing and upgrading our products in order to cover any latest quality, performance or environmental requirement.

This catalogue includes a range of products that give particular attention to:

- Vehicle / Machinery Performance requirements
- International and EU Legislative compliance
- Environmental concerns
- Package design meeting legislative requirements
- Label design meeting legislative requirements







## Quality, Environmental, Occupational Health and Safety Management

SLIDER SA implements a unified management system according to ISO9001, ISO14001 and OHSAS 18001 international standards. The management system is certified by Bureau Veritas Certification Hellas S.A.

Our Key strengths in terms of quality, environmental and health & Safety management are:

- Computer based automated production
- State of the art blending and monitoring equipment
- In-house laboratory for Quality Control
- Qualified and experienced personnel
- Delivery flexibility
- Full compliance with EU environmental legislation
- Best working conditions and workplace health and safety







**Advanced Lubrication Solutions**





**PASSENGER CAR & LIGHT TRUCK**  
ENGINE LUBRICANTS



# PASSENGER CAR ENGINE LUBRICANTS



## GENESIS GF 5W-20

Ultra fuel economy synthetic engine oil for passenger cars and light commercial vehicles with extended drain intervals. Specially developed for the Ford EcoBoost and Jaguar-Land Rover engines. Ultimate cold starting performance. Low oil consumption. Minimum exhaust emissions and maximum engine protection.

SPECIFICATIONS	PACKAGING	CODE
API SN/CF, ILSAC GF-5, ACEA A1/B1, Ford WSS-M2C948A/B, ST JLR.03.5004	16x1Lt	081161
	4x4Lt	081441
	20Lt	081221
	205Lt	081801
	1000Lt	081991



## GENESIS FE 0W-20

Ultra fuel economy synthetic engine oil for passenger cars with extended drain intervals. Specially developed for energy conserving gasoline engines. Ultimate cold starting performance. Fuel economy. Minimum exhaust emissions and maximum engine protection.

SPECIFICATIONS	PACKAGING	CODE
API SN-RC, ILSAC GF-5, GM Dexos 1	16x1Lt	082161
	4x4Lt	082441
	20Lt	082221
	205Lt	082801
	1000Lt	082991



## GENESIS VW 5W-30

Synthetic engine oil for passenger cars and light commercial vehicles with extended drain intervals. Specially developed for engines equipped with exhaust after treatment systems, including particulate filters. Suitable for the VW group engines requiring a VW 504.00/507.00 quality level oil.

SPECIFICATIONS	PACKAGING	CODE
API SN, ACEA C3, MB 229.51, BMW Longlife 04, VW504.00/507.00, Porsche C30, VW TL 52195	16x1Lt	155161
	4x4Lt	155441
	20Lt	155221
	205Lt	155801
	1000Lt	155991



# PASSENGER CAR ENGINE LUBRICANTS



## GENESIS C2 5W-30

SPECIFICATIONS	PACKAGING	CODE
API SN/CF, ACEA C2, ACEA A1/B1, ACEA A5/B5, Renault RN 0700, PSA B71 2290	16x1Lt	150161
	4x4Lt	150441
	20Lt	150221
	205Lt	150801
	1000Lt	150991

Fuel economy synthetic engine oil for passenger cars and light commercial vehicles with extended drain intervals. Specially developed for engines equipped with exhaust after treatment systems, including particulate filters. Optimum cold starting. Low oil consumption. Minimum exhaust emissions.



## GENESIS C3 5W-30

SPECIFICATIONS	PACKAGING	CODE
API SN/CF, ACEA C3, MB 229.51, 229.52, 229.31, 226.5, BMW Longlife 04, Renault RN 0700/710, GM DEXOS 2	16x1Lt	100161
	4x4Lt	100441
	20Lt	100221
	205Lt	100801
	1000Lt	100991

Synthetic engine oil for passenger cars and light commercial vehicles with extended drain intervals. Specially developed for engines equipped with exhaust after treatment systems, including particulate filters. Optimum cold starting. Low oil consumption. Minimum exhaust emissions.



## GENESIS C3 5W-40

SPECIFICATIONS	PACKAGING	CODE
API SN/CF, ACEA C3, MB 229.51, 229.31, 226.5, BMW Longlife 04, VW 502.00/505.00/505.01, Renault RN 0700/710, GM DEXOS 2, Porsche A40	16x1Lt	152161
	4x4Lt	152441
	20Lt	152221
	205Lt	152801
	1000Lt	152991

Synthetic engine oil for passenger cars and light commercial vehicles with extended drain intervals. Specially developed for engines equipped with exhaust after treatment systems, including particulate filters. Optimum cold starting. Low oil consumption. Minimum exhaust emissions.



# PASSENGER CAR ENGINE LUBRICANTS



## GENESIS C4 5W-30

Premium quality synthetic engine oil, designed for engines equipped with exhaust after treatment systems. Formulated with the Low Saps additive technology to meet the Renault Group RN 0720 specification. Recommended for the Renault, Mercedes and Nissan models equipped with Renault DPF diesel engines.

SPECIFICATIONS	PACKAGING	CODE
API SN, ACEA C4, MB 226.51, Renault RN0720	16x1Lt	154161
	4x4Lt	154441
	20Lt	154221
	205Lt	154801
	1000Lt	154991



## GENESIS FS 5W-30

High performance synthetic engine oil for passenger cars and light commercial vehicles. It offers optimum anti wear protection and engine cleansing for extended oil drain intervals.

SPECIFICATIONS	PACKAGING	CODE
API SL/CF, ACEA A3/B4, MB 229.3, VW 501.01/502.00/505.00, BMW LL-01, OPEL GM-LL-B-025	16x1Lt	101161
	4x4Lt	101441
	20Lt	101221
	205Lt	101801
	1000Lt	101991



## GENESIS FS 5W-40

High performance synthetic engine oil for passenger cars and light commercial vehicles. It offers optimum anti wear protection and engine cleansing for extended oil drain intervals.

SPECIFICATIONS	PACKAGING	CODE
API SN/CF, ACEA A3/B4, MB 229.3, VW 501.01/502.00/505.00, BMW LL-01, OPEL GM-LL-B-025, RENAULT RN 0700/0710	16x1Lt	102161
	4x4Lt	102441
	20Lt	102221
	205Lt	102801
	1000Lt	102991



# PASSENGER CAR ENGINE LUBRICANTS



## GENESIS XR 10W-40

SPECIFICATIONS	PACKAGING	CODE
API SN/CF, ACEA A3/B4, MB 229.3, VW 501.01/505.00, BMW LL-01, PSA B71 2300, RENAULT RN 0700/0710	16x1Lt	103161
	4x4Lt	103441
	20Lt	103221
	205Lt	103801
	1000Lt	103991

High performance semi-synthetic engine oil for passenger cars and light commercial vehicles. It offers optimum anti wear protection and engine cleansing for long drain intervals.



## GENESIS AR 10W-40

SPECIFICATIONS	PACKAGING	CODE
API SL/CF, ACEA A3/B4, MB 229.1, VW 501.01/505.00	16x1Lt	105161
	4x4Lt	105441
	20Lt	105221
	205Lt	105801
	1000Lt	105991

Semi-synthetic engine oil for passenger cars and light commercial vehicles. It offers anti wear protection, engine cleansing for long periods and low service cost.



## GENESIS AR 15W-40

SPECIFICATIONS	PACKAGING	CODE
API SL/CF, ACEA A3/B4, MB 229.1, VW 501.01/505.00	16x1Lt	106161
	4x4Lt	106441
	20Lt	106221
	205Lt	106801
	1000Lt	106991

Multi grade engine oil for passenger cars and light commercial vehicles. It offers anti wear protection, engine cleansing and low service cost.



## GENESIS ML 20W-50

SPECIFICATIONS	PACKAGING	CODE
API SJ/CF	16x1Lt	111161
	4x4Lt	111441
	20Lt	111221
	205Lt	111801
	1000Lt	111991

Multi grade engine oil for passenger cars and light commercial vehicles. It offers anti wear protection, engine cleansing and low service cost.





**HEAVY DUTY DIESEL & OFF-ROAD MACHINERY LUBRICANTS**



# HEAVY DUTY DIESEL ENGINE LUBRICANTS



## TAURUS FE 10W-30

SPECIFICATIONS	PACKAGING	CODE
API CK-4/SN, ACEA E9/E7, Volvo VDS-4/ Renault RLD-3/ Mack EOS 4.5, MB 228.31, MAN M3275, MTU Cat.2.1, Cummins CES 20086, CES20081, Deutz DQC IV-10 LA, Detroit Diesel 93K218, Caterpillar ECF-3, DD DFS93K222/93K218, VOLVO VDS 4.5.	20Lt	200221
	205Lt	200801
	1000Lt	200991

Global top tier synthetic HDD engine lubricant based on the lower SAPS additive technology. It covers most OEM requirements for engines meeting the latest global exhaust emissions requirements. Designed for ultimate engine protection, oxidation resistance and cleanliness for extended oil drain intervals.



## TAURUS LX 5W-30

SPECIFICATIONS	PACKAGING	CODE
API CJ-4, ACEA E4/E6/E7/E9, Volvo VDS-4/ Renault RLD-3/ Mack EO-O Premium Plus, MB 228.51/ 228.31, MAN M3677/ M3477/ M3575/ M3271-1/ M3691, MTU Cat.3.1, Cummins CES20081, Deutz DQC IV-10 LA, Detroit Diesel 93K218, Caterpillar ECF-3, SCANIA Low Ash.	20Lt	204221
	205Lt	204801
	1000Lt	204991

Global top tier synthetic HDD engine lubricant based on the lower SAPS additive technology. It covers most OEM requirements for engines meeting the latest EURO IV, V and VI exhaust emissions requirements. Designed for ultimate engine protection and cleanliness for extended oil drain intervals.



## TAURUS LX 10W-40

SPECIFICATIONS	PACKAGING	CODE
API CI-4, ACEA E4/E6/E7, MB 228.51, MAN M 3477/ 3271-1, Deutz DQC III-10 LA, MTU Category 3.1, MACK EO-N, RENAULT RLD-2, VOLVO VDS-3, Cummins 20076/77	20Lt	206221
	205Lt	206801
	1000Lt	206991

Ultra high performance, lower SAPS synthetic HDD engine lubricant. It covers European and OEM requirements for EURO IV, V and VI exhaust emissions requirements. Designed for engines with DPF, offering ultimate protection and cleanliness for extended oil drain intervals.



# HEAVY DUTY DIESEL ENGINE LUBRICANTS



## TAURUS FX 10W-40

Ultra high performance, full SAPS synthetic HDD engine lubricant. Designed for engines with EGR and SCR exhaust aftertreatment systems, offering ultimate wear protection and cleanliness for extended oil drain intervals. Suitable for Euro III, IV and specific Euro V engines.

SPECIFICATIONS	PACKAGING	CODE
API CI-4, ACEA E4/E7, MB 228.5 MAN M3277, MTU TYPE III, VOLVO VDS 3, CUMMINS 20078, RENAULT RXD/RLD-2, MACK EOM+, DEUTZ III-05, GLOBAL DHD-1.	20Lt	205221
	205Lt	205801
	1000Lt	205991



## TAURUS V4 10W-40

Top tier synthetic mid SAPS, HDD engine oil, designed to meet the VOLVO VDS-4 long drain specification for engines equipped with DPF systems. It offers excellent soot handling, oxidation and anti-wear protection for extended oil drain intervals.

SPECIFICATIONS	PACKAGING	CODE
API CJ-4, ACEA E7/E9, VOLVO VDS 4, CAT ECF-3, MACK EO-O Premium Plus, CUMMINS CES20081, MB 228.31, MAN M 3575, MTU Cat. 2.1, RENAULT RLD-3, DDC PGOS 93K218.	20Lt	209221
	205Lt	209801
	1000Lt	209991



## TAURUS V4 15W-40

Top tier synthetic mid SAPS, HDD engine oil, designed to meet the VOLVO VDS-4 long drain specification for engines equipped with DPF systems. It offers excellent soot handling, oxidation and anti-wear protection for extended oil drain intervals.

SPECIFICATIONS	PACKAGING	CODE
API CJ-4/SN, ACEA E7/E9, VOLVO VDS 4 approval, MACK EO-O Premium Plus approval, RENAULT RLD-3 approval, CUMMINS CES20081, MB 228.31, MAN M 3575, DDC PGOS 93K218, Deutz DQC III-10 LA, JASO DH-2, MTU Cat. 2.1, CAT ECF-3, Scania Low Ash.	20Lt	207221
	205Lt	207801
	1000Lt	207991



# HEAVY DUTY DIESEL ENGINE LUBRICANTS



## TAURUS SHC 10W-40

SPECIFICATIONS	PACKAGING	CODE
API CI-4/SL, ACEA E7, MB 228.3, MACK EO-N,, MAN M 3275-1, CUMMINS CES 20076/77, RENAULT RLD-2, VOLVO VDS-3, Caterpillar ECF-1a	20Lt	203221
	205Lt	203801
	1000Lt	203991

Super high performance, semi-synthetic HDD engine oil designed for heavy duty trucks and off road machinery. Suitable for Euro II,III engines and Euro IV & V without DPF. Offers maximum soot handling, oxidation and anti-wear protection under severe operating conditions.



## TAURUS XD 15W-40

SPECIFICATIONS	PACKAGING	CODE
API CI-4/SL, ACEA E7, ACEA A3/B4, MB 228.3, MACK EO-N approval, MAN M 3275-1, CUMMINS CES 20076/77, RENAULT RLD-2 approval, VOLVO VDS-3 approval, Caterpillar ECF-2	4x4Lt	202441
	20Lt	202221
	205Lt	202801
	1000Lt	202991

Super high performance, HDD engine oil designed for heavy duty trucks and off road machinery. Suitable for Euro II,III engines and Euro IV & V without DPF. Offers maximum soot handling, oxidation and anti-wear protection under severe operating conditions.



## TAURUS TD 15W-40 / 20W-50

SPECIFICATIONS	PACKAGING	CODE	
		15W-40	20W-50
API CH-4/SJ, ACEA E5-02 (quality), ACEA A3/B3, MAN M 3275-1, MB 228.3, VOLVO VDS- 2 (quality), MTU Cat.2.	20Lt	216221	217221
	205Lt	216801	217801
	1000Lt	216991	217991

High performance multi-grade HDD engine lubricants, designed for use in a wide range of Euro I,II & III diesel engines, both normally aspirated and turbo charged. Also suitable for gasoline engines. A low cost solution for mixed fleet applications.



# HEAVY DUTY DIESEL ENGINE LUBRICANTS



## TAURUS HD 15W-40 / 20W-50

High quality multi grade HDD engine oils designed to offer protection and engine cleanliness in older vehicles operating under normal conditions.

SPECIFICATIONS	PACKAGING	CODE	
		15W-40	20W-50
API CF-4/SJ, ACEA E2-96 quality, MB 228.1 MTU Cat.1, MAN 270/271 VOLVO VDS	16x1Lt	213161	212161
	4x4Lt	213441	212441
	20Lt	213221	212221
	205Lt	213801	212801
	1000Lt	213991	212991



## TAURUS S-3 10W / 20W-20 / 30 / 40 / 50

High quality mono-grade lubricants, suitable for diesel and gasoline engines, transmissions, final drives and hydraulic systems.

SPECIFICATIONS	PACKAGING	CODE				
		10W	20W-20	30	40	50
API CF-4/SJ, ACEA E2-96 quality, MB 228.0 MTU Cat.1, MAN 270, VOLVO VDS, CAT TO-2, Alisson C-4.	16x1Lt	224161	223161	221161	222161	225161
	4x4Lt	224441	223441	221441	222441	225441
	20Lt	224221	223221	221221	222221	225221
	205Lt	224801	223801	221801	222801	225801
	1000Lt	224991	223991	221991	222991	225991



## TAURUS GEO SAE 30

High performance, low ash, mono-grade engine lubricant, specially designed for spark-ignited natural gas engines. It provides excellent detergency and dispersancy, oxidation and rust inhibition.

SPECIFICATIONS	PACKAGING	CODE
API CC	20Lt	230221
	205Lt	230801
	1000Lt	230991



# HEAVY DUTY DIESEL ENGINE LUBRICANTS



## TAURUS CF-2 SAE 40

SPECIFICATIONS	PACKAGING	CODE
API CF-2/CF/SF, Detroit Diesel 7SE2709505	20Lt	244221
	205Lt	244801
	1000Lt	244991

Low sulphated ash engine oil specially designed for two-stroke diesel engines, naturally aspirated and turbo charged.



## TAURUS BASIC 20W-50

SPECIFICATIONS	PACKAGING	CODE
API SF/CD, MIL-L-2104 D/46152B.	16x1Lt	118161
	4x4Lt	118441
	20Lt	118221
	205Lt	118801
	1000Lt	118991

Mineral multi-grade engine oil for gasoline and diesel engines, operating under moderate conditions.



## TAURUS BASIC 10W / 30 / 40 / 50

SPECIFICATIONS	PACKAGING	CODE			
		10W	30	40	50
API SF/CD, MIL-L-2104 D/46152B, CAT T0-2, Allison C-4.	16x1Lt	115161	116161	117161	120161
	4x4Lt	115441	116441	117441	120441
	20Lt	115221	116221	117221	120221
	205Lt	115801	116801	117801	120801
	1000Lt	115991	116991	117991	120991

Mono-grade lubricants, suitable for diesel and gasoline engines operating under moderate conditions. Also suitable for transmissions, and hydraulic systems.



# AGRICULTURAL MACHINERY LUBRICANTS



## TAURUS TO-4 10W / 30 / 50

Monograde lubricants specially designed for use in hydraulic systems, power shift transmissions, differentials, clutches and final drives of Caterpillar and Komatsu off-road machinery.

SPECIFICATIONS	PACKAGING	CODE		
		10W	30	50
CAT TO-4 & TO-2, COMATSU, ALLISON C-4, API CF-2	20Lt	226221	227221	228221
	205Lt	226801	227801	228801
	1000Lt	226991	227991	228991



## AGROS TUO 20W-40 / 15W-40 / 10W-30

Multi-grade universal lubricants for agricultural tractors (STOU), specially designed for use in engine, gear box, differential, hydraulic system and wet brakes.

SPECIFICATIONS	PACKAGING	CODE		
		20W-40	15W-40	10W-30
API CG-4/SF, API GL-4, ACEA E3-96 (quality), JOHN DEERE J 27, MASSEY FERGUSON CMS M 1144, 1145& 1139, NEW HOLLAND 82009201/2/3	20Lt	231221	232221	233221
	205Lt	231801	232801	233801
	1000Lt	231991	232991	233991



## AGROS FLUID 10W-30 / 20W-30

High quality universal tractor transmission fluids (UTTO), designed for use in hydraulic systems, powershift transmissions and rear axles with or without immersed brakes of all agricultural machinery, except hypoid gear applications.

SPECIFICATIONS	PACKAGING	CODE	
		10W-30	20W-30
API GL-4, John Deere J20C, Case New Holland MAT 3525/3526, Ford WSS M2C 86B/C, M2C 134D, Massey Ferguson M 1145, 1143, 1141, 1138, 1135, Cat TO-2, ZF TE-ML-03E/05F	20Lt	531221	533221
	205Lt	531801	533801
	1000Lt	531991	533991





**MOTORCYCLE & MARINE ENGINE LUBRICANTS**



# MOTORCYCLE ENGINE LUBRICANTS



## MOTO 4T SR 10W-40

Premium synthetic four-stroke motorcycle oil, designed for high output engines. It offers optimum clutch performance, high lubricity and gearbox wear protection.

SPECIFICATIONS	PACKAGING	CODE
API SL, JASO MA2	16x1Lt	415161
	20Lt	415221
	205Lt	415801
	1000Lt	415991



## MOTO 4T GT 10W-40 / 15W-50

Semi-synthetic four-stroke motorcycle oil, designed for modern engines and large-sized scooters. It offers optimum clutch performance, high lubricity and gearbox wear protection.

SPECIFICATIONS	PACKAGING	CODE	
		10W-40	15W-50
API SL, JASO MA2	16x1Lt	418161	416161
	20Lt	418221	416221
	205Lt	418801	416801
	1000Lt	418991	416991



## MOTO 4T ML 20W-50

High quality, multi-grade, four-stroke motorcycle oil. It offers engine protection and reliable clutch performance.

SPECIFICATIONS	PACKAGING	CODE
API SJ, JASO MA2	16x1Lt	414161
	20Lt	414221
	205Lt	414801
	1000Lt	414991



## TWO-STROKE ENGINE LUBRICANTS



### SYN MIX PLUS

SPECIFICATIONS	PACKAGING	CODE
API TC, JASO FD, TISI, ISO-L-EGD, Husqvarna HVA 346 & 372.	16x1Lt	407161
	20Lt	407221
	205Lt	407801
	1000Lt	407991

Premium quality, semi-synthetic two-stroke engine oil designed for use in high demand engines. It offers smoke reduction, deposit control and exhaust blocking prevention. It meets the demanding Husqvarna HVA 346 and 372 tests. It is ideal for 2-stroke racing motorbikes, chainsaws and lawn cutters. Dilution ratio 1:50.



### SYN MIX

SPECIFICATIONS	PACKAGING	CODE
API TC, JASO FD, TISI, ISO-L-EGD.	16x1Lt	413161
	20Lt	413221
	205Lt	413801
	1000Lt	413991

Semi-synthetic two-stroke engine oil designed for use in high demand engines. It offers smoke reduction, deposit control and exhaust blocking prevention. Suitable for 2-stroke motorcycles, chainsaws and lawn cutters. Dilution ratio 1:50.



### MIX 2T

SPECIFICATIONS	PACKAGING	CODE
JASO FB, ISO-L-EGB	16x1Lt	411161
	20Lt	411221
	205Lt	411801
	1000Lt	411991

Mineral two-stroke engine lubricant for low performance and low capacity engines. Dilution ratio 1:25 - 1:50.



### CHAIN LUBE

SPECIFICATIONS	PACKAGING	CODE
	16x1Lt	406161
	20Lt	406221
	205Lt	406801
	1000Lt	406991

Special non-dripping oil designed for the lubrication of the chain and guide bar of chainsaws. It protects from wear and rust. It's high tackiness performance prevents dripping and high oil consumption.



# OUTBOARD ENGINE LUBRICANTS



## MARINE 4T FCW 10W-40

Synthetic multi-grade engine lubricant specially designed for the new generation four-stroke outboard marine engines. Excellent corrosion protection in extreme marine conditions. Superior anti-wear protection in high and low speeds.

SPECIFICATIONS	PACKAGING	CODE
NMMA: FCW	16x1Lt	408161
	20Lt	408221
	205Lt	408801
	1000Lt	408991



## MARINE 2T TCW-3

High performance, ashless, semi-synthetic two-stroke engine lubricant, designed for outboard marine engines and jet skis with injection type lubricating systems or pre-mix. Excellent deposit control and wear protection. Keeps engine and spark plugs clean. Red colored.

SPECIFICATIONS	PACKAGING	CODE
NMMA: TCW-3	16x1Lt	412161
	20Lt	412221
	205Lt	412801
	1000Lt	412991



## MARINE GEAR 80W-90

High performance, extreme pressure, multi-grade gear oil designed for the gear boxes and stern drives of outboard and inboard engines. It offers excellent sea water corrosion resistance, load carrying performance and anti-wear protection.

SPECIFICATIONS	PACKAGING	CODE
API GL-5	16x1Lt	461161
	20Lt	461221
	205Lt	461801
	1000Lt	461991





**DRIVELINE** LUBRICANTS





## VERTEX-S TDF 75W-90

Premium synthetic, long life total driveline fluid for heavy duty manual transmissions and axles. Suitable for use in commercial vehicles, passenger cars, buses and construction machinery. It provides ultimate protection and fuel economy.

### SPECIFICATIONS

API GL4/GL-5/MT-1, MB 235.6, MIL-PRF-2105D, ZF TE-ML 02B, 05B, 07A, 08, 12B, 16F, 17B, MAN 341 Z2, MAN 342 M2, Volvo 1273.10, Iveco, Eaton.

### PACKAGING

### CODE

16x1Lt	643161
20Lt	643221
205Lt	643801
1000Lt	643991



## VERTEX-S LD 75W-80

Premium synthetic transmission fluid, designed for use in synchronised manual and automatic transmissions of modern commercial vehicles using ZF transmissions including those fitted with intarders. It offers excellent syncromesh performance, under high loads and high temperatures for long drain intervals. Ideal for mixed fleets.

### SPECIFICATIONS

API GL-4, MAN 341 E3/Z-4, ZF TE-ML 01L/02L/08/16K, Volvo 97305, Renault, Eaton, DAF, IVECO.

### PACKAGING

### CODE

20Lt	644221
205Lt	644801
1000Lt	644991



## VERTEX-S MTF 75W-80

Synthetic multi-vehicle manual transmission fluid, specially designed for European and Asian vehicles. It offers superior bearing and gear protection, cleanliness, low temperature performance and robust corrosion protection.

### SPECIFICATIONS

API GL-4, SFU: Mercedes-Benz, VW group, Fiat, Ford, Honda, Hyundai, Nissan, Peugeot, Citroen, Renault, Rover, Jeep, Opel, Toyota, Porsche, Suzuki, Volvo.

### PACKAGING

### CODE

16x1Lt	649161
20Lt	649221
205Lt	649801
1000Lt	649991





## VERTEX-S MT 75W

SPECIFICATIONS	PACKAGING	CODE
API GL-4, SFU: VW TL 726, VW TL 525 12	16x1Lt	648161
	20Lt	648221
	205Lt	648801
	1000Lt	648991

Synthetic, ultra fuel economy manual transmission fluid for passenger cars. It offers optimum operation under high loads, fuel economy, superior viscosity-temperature behaviour and protection against wear, corrosion and sludge formation.



## VERTEX-S LS 75W-140

SPECIFICATIONS	PACKAGING	CODE
API GL-5 LS Scania ST0:1 SFU:Ford M2C- 192A, BMW, Chrysler, GM.	20Lt	647221
	205Lt	647801
	1000Lt	647991

Synthetic, high performance gear lubricant for transaxles and hypoids with and without LS performance, operating under high loads. It offers resistance to shear and ageing, thermal stability and outstanding wear protection. Suitable for long drain intervals.



## VERTEX MTL 75W-90

SPECIFICATIONS	PACKAGING	CODE
API GL-4, MB 235.5, ZF TE-ML 02D/08, MAN 341 Z1 & Z2, IVECO, EATON, API GL4/MT1	16x1Lt	642161
	20Lt	642221
	205Lt	642801
	1000Lt	642991

Semi-synthetic gear lubricant for synchronised manual transmissions of commercial vehicles and passenger cars. It offers excellent gear engagement, wear protection, fuel economy and long drain intervals.





## VERTEX VRT 75W-80

Semi-synthetic manual transmission lubricant, designed for use in the PSA group gearboxes. It offers excellent wear protection, EP performance and fuel economy for long drain intervals.

SPECIFICATIONS	PACKAGING	CODE
API GL-4/GL-5/MT 1 MIL-L-2105 C&D, PSA (Peugeot, Citroen).	20Lt	641221
	205Lt	641801
	1000Lt	641991



## VERTEX GL-5 75W-90

Semi-synthetic transmission and axle lubricant for transmissions requesting GL-5 performance level, hypoid gears, drive axles and final drives. It offers wear protection, optimum performance at low and elevated temperatures, and thermal stability for long drain intervals.

SPECIFICATIONS	PACKAGING	CODE
API GL-5/MT 1 MIL-L-2105 D, MACK GO-J	20Lt	646221
	205Lt	646801
	1000Lt	646991



## VERTEX LS 85W-90

Multi-grade gear oil for axles with differentials equipped with limited slip disks.

SPECIFICATIONS	PACKAGING	CODE
GL-5 LS, MIL-L-2105 D, ZF TE-ML-05C/12C/16E	16x1Lt	651161
	20Lt	651221
	205Lt	651801
	1000Lt	651991





## VERTEX GL-5 80W-90 / 85W-140

SPECIFICATIONS	PACKAGING	CODE	
		80W-90	85W-140
API GL-4/GL-5/MT-1, MIL-L-2105 D	16x1Lt	631161	632161
	20Lt	631221	632221
	205Lt	631801	632801
	1000Lt	631991	632991

Multi-grade gear oils for transaxles and hypoids operating under high loads. They offer resistance to shear and outstanding wear protection. Suitable for highly loaded gears.



## VERTEX GL-4 80W-90

SPECIFICATIONS	PACKAGING	CODE
API GL-4, MIL-L-2105	16x1Lt	624161
	4x4Lt	624441
	20Lt	624221
	205Lt	624801
	1000Lt	624991

Multi-grade gear oil for synchronised manual transmissions of passenger cars and commercial vehicles. It offers anti-wear, anti-rust and oxidation protection.



## VERTEX GL-4 80W / 90 / 140

SPECIFICATIONS	PACKAGING	CODE		
		80W	90	140
API GL-4, MIL-L-2105	20Lt	621221	622221	623221
	205Lt	621801	622801	623801
	1000Lt	621991	622991	623991

Mono-grade gear oils for synchronised manual transmissions of passenger cars and commercial vehicles. They offer anti-wear, anti-rust and oxidation protection.

## VERTEX GL-1 80W / 90 / 140

SPECIFICATIONS	PACKAGING	CODE		
		80W	90	140
API GL-1	16x1Lt	611161	612161	613161
	4x4Lt	611441	612441	613441
	20Lt	611221	612221	613221
	205Lt	611801	612801	613801
	1000Lt	611991	612991	613991

Mono-grade gear oils for gear boxes and differentials operating at mild load/low speed conditions.



# AUTOMATIC TRANSMISSION FLUIDS



## ATF MF

High performance, low viscosity, synthetic multi-vehicle ATF, specially designed for modern 6+ speed transmissions. It offers smooth gear shifting, anti-sudder durability, oxidation stability and extended transmission life.

SPECIFICATIONS	PACKAGING	CODE
Ford ML-V, GM D VI, Hyundai-Kia SP-IV, NISSAN Matic S, Toyota WS, Honda ATF Z-1, MB 236.14,	16x1Lt	5103161
	20Lt	5103221
	205Lt	5103801
	1000Lt	5103991



## ATF CVT

High performance, synthetic ATF specially designed for continuously variable transmissions (CVT), operating with steel belts or chains. It offers optimum anti-wear protection and stable friction performance.

SPECIFICATIONS	PACKAGING	CODE
Audi Multitronic, BMW Mini Cooper EZL 799/799A/ZF CVT V1, , Daihatsu AMMIX CVTF DFE/CVT Fluid DC/TC, Dodge/Jeep/Chrysler NS-2 & CVT+4, GM DEX-CVT, Honda HMMF/Z-1, Hyundai/Kia CVT-J1/SP III (CVT model)Idemitsu CVTS-EX1, Mazda JWS 3320, Mini Cooper EZL 799/EZL 799A/ZF CVT V1, Mitsubishi CVTF-J1/J4 and -J4+, Mitsubishi SP-III (CVT model only), Nissan NS-1, -2, -3, Punch CVT, Shell Green 1V, Subaru iCVT/iCVT FG/ECVT/chain CVT, CVT II & (HT) CVT Fluid, Subaru NS-2, Suzuki CVTF TC & CVTF 3320.	16x1Lt	5193161
	20Lt	5193221
	205Lt	5193801
	1000Lt	5193991



## ATF HD

High performance, semi-synthetic ATF designed for Heavy Duty transmissions of buses and trucks. It is also suitable for passenger cars requiring a high viscosity ATF. It offers optimum performance and covers the requirements of most OEM's.

SPECIFICATIONS	PACKAGING	CODE
ZF-TE-ML 03D/14B, Voith H55.6335, MAN 339 Type V1/Type Z1, MB 236.9, Volvo 97340,97341, Allison C-4, Ford M, GM Dexron III H+.	20Lt	515221
	205Lt	515801
	1000Lt	515991



# AUTOMATIC TRANSMISSION FLUIDS



## ATF DIII

SPECIFICATIONS	PACKAGING	CODE
GM DEXRON III G/H, ALLISON C-4, MERCON, VOITH G 607, MB 236.9, ZF-TE-ML 14	16x1Lt	522161
	20Lt	522221
	205Lt	522801
	1000Lt	522991

Semi-synthetic transmission fluid suitable for most automatic transmissions, clutches and steering systems in passenger cars, commercial trucks and off-road machinery. It offers smooth performance and oxidation stability.



## ATF DII

SPECIFICATIONS	PACKAGING	CODE
GM DEXRON II D, ALLISON C-4, CAT TO-2, VOITH, MB 236.7, RENK, ZF-TE-ML 09/11/14, MAN 339-D	20Lt	521221
	205Lt	521801
	1000Lt	521991

Automatic transmission fluid suitable for transmissions requesting a Dexron II quality level, clutches and steering systems in passenger cars, commercial trucks and off-road machinery.





**ENGINE COOLANTS & SPECIAL FLUIDS**



## ENGINE COOLANTS



### ANTIFREEZE BS

SPECIFICATIONS	PACKAGING	CODE
ASTM D 3306/ASTM D 4985/SAE J1034/CUNA NC 956-16/ONORM V 5123:2009/AFNOR NFR 15-601/BS 6580:2010	16x1Lt	901161
	4x4Lt	901441
	20Lt	901221
	205Lt	901801
	1000Lt	901991

Undiluted engine antifreeze, suitable for engine cooling systems. It is amines and nitrites free.



### ANTIFREEZE G-12

SPECIFICATIONS	PACKAGING	CODE
VW/Audi/Seat/Skoda TL-774-D/F, Porsche Carrera/Boxter/Cayenne, MB 325.3, MAN 325 SNF, MTU MTL 5048, SCANIA T1 - 02 - 980813T / BM sv, Ford WSS-M97B44, GM 6277, VOLVO.	16x1Lt	902161
	4x4Lt	902441
	20Lt	902221
	205Lt	902801
	1000Lt	902991

Undiluted engine antifreeze, suitable for modern engine cooling systems, especially for highly loaded aluminum engines. It covers the latest OEM requirements. It is amines, nitrites, phosphates and silicates free.



### ALL WEATHER

SPECIFICATIONS	PACKAGING	CODE
ASTM D 3306/ASTM D 4985/SAE J1034/CUNA NC 956-16/ONORM V 5123:2009/AFNOR NFR 15-601/BS 6580:2010	16x1Lt	911161
	4x4Lt	911441
	20Lt	911221
	205Lt	911801
	1000Lt	911991

Prediluted (ready to use) engine coolant with -27°C protection. Suitable for cooling systems of vehicles and machinery. It is amines and nitrites free.



## ENGINE COOLANTS



### G-12 RADIATOR FLUID

Prediluted (ready to use) engine coolant with  $-27^{\circ}\text{C}$  protection. Suitable for modern engine cooling systems, especially for highly loaded aluminum engines. It covers the latest OEM requirements. It is amines, nitrites, phosphates and silicates free.

SPECIFICATIONS	PACKAGING	CODE
Ford: WSS-M97B44-D, MAN: 324-SNF, MB: DBL 7700.30 p325.3, MTU: MTL 5048, VW/Audi/Seat/Skoda: TL 774-D/F	16x1Lt	912161
	4x4Lt	912441
	20Lt	912221
	205Lt	912801
	1000Lt	912991

## SPECIAL FLUIDS

### DOT-4 BRAKE FLUID

Brake fluid suitable for use in disc brake systems.

SPECIFICATIONS	PACKAGING	CODE
SAE J1703 (1991), FMVSS No 116 DOT 4	16x1Lt	922161
	4x4Lt	922441
	20Lt	922221
	205Lt	922801
	1000Lt	922991

### FLUSHING OIL

Special lubricant designed for the internal cleaning of gasoline and diesel engines.

SPECIFICATIONS	PACKAGING	CODE
	16x1Lt	951161
	4x4Lt	951441
	20Lt	951221
	205Lt	951801
	1000Lt	951991

### DFI

Diesel flow improver. It prevents wax crystal formation in diesel fuel. (Usual treatment: 1/1000).

SPECIFICATIONS	PACKAGING	CODE
DFI	16x1Lt	941161
	4x4Lt	941441
	20Lt	941221
	205Lt	941801
	1000Lt	941991





**LUBRICANTS  
FOR THE INDUSTRIAL SECTOR**





# LUBRICANTS FOR HYDRAULIC SYSTEMS



## HYDRO

High performance hydraulic fluids designed to provide ultimate protection and performance in most industrial, marine and mobile equipment applications. They resist thermal or mechanical breakdown and protect the mechanical parts from wear and deposit formation. They are ideal for hydraulic power systems operating under high pressure.

SPECIFICATIONS	PACK.	CODE					
ISO 6743/4 HM. DIN 51524 Part 2 HLP, AFNOR NFE-48603 HM, Denison HF-1/HF-2, Sperry Vickers I-286-S.	ISO	10	22	32	46	68	100
	20Lt	719221	710221	711221	712221	713221	714221
	205Lt	719801	710801	711801	712801	713801	714801
	1000Lt	719991	710991	711991	712991	713991	714991

## SPECIAL HYDRO

High performance, high viscosity index hydraulic fluids designed to provide excellent viscosity control under severe mechanical stress and temperature variations. Superior anti-wear protection and performance in most mobile, marine and industrial equipment operating in wide temperature ranges.

SPECIFICATIONS	PACK.	CODE					
ISO 6743/4 HV. DIN 51524 Part III HV, AFNOR NFE-48603 HV, Denison HF-0, US STEEL 136.	ISO	15	22	32	46	68	100
	20Lt	726221	720221	721221	722221	723221	724221
	205Lt	726801	720801	721801	722801	723801	724801
	1000Lt	726991	720991	721991	722991	723991	724991

## HYDRO XP 32

Extreme pressure hydraulic fluid, specially designed for hydrokinetic transmission units with integral reduction gears. It offers high load carrying properties, excellent oxidation resistance, corrosion protection and foam control.

SPECIFICATIONS	PACKAGING	CODE
DIN 51534 HLP, Voith turbo.	20Lt	728221
	205Lt	728801
	1000Lt	728991

## HYDRO ZF

High performance, zinc-free hydraulic fluids designed to provide ultimate protection and performance in most industrial, marine and mobile equipment applications. They resist thermal or mechanical breakdown and protect the mechanical parts from wear and deposit formation. They are ideal for hydraulic power systems operating under high pressure.

SPECIFICATIONS	PACKAGING	CODE	
ISO 6743/4 HM. DIN 51524 Part 2 HLP, AFNOR NFE-48603 HM, Denison HF-0/HF-2, Sperry Vickers I-286-S, US Steel 136.	ISO	46	68
	20Lt	716221	718221
	205Lt	716801	718801
	1000Lt	716991	718991

## HYDRO HFC 46

Superior quality, water glycol based fluid for use in hydraulic systems where fire resistance is a high priority. It is ideal for use in the steel, aluminum and die-casting industries. Exhibits high shear stability, corrosion resistance and seal compatibility.

SPECIFICATIONS	PACKAGING	CODE
ISO L-HFC.	20Lt	729221
	205Lt	729801
	1000Lt	729991



# LUBRICANTS FOR COMPRESSORS



## SYNCOMP DE

SPECIFICATIONS	PACKAGING	CODE	
DIN 51506 VDL, ISO/DP 6521-L-DAB-medium & severe duty, EN 12021	ISO	100	68
	20Lt	774221	776221
	205Lt	774801	776801
	1000Lt	774991	776991

High performance synthetic ester-based air compressor lubricants designed for high pressure reciprocating compressors, offering superior anti-wear protection, fast water separation and system efficiency. They are ideal for air breathing systems.

## SYNCOMP PG

SPECIFICATIONS	PACKAGING	CODE	
	ISO	220	150
	20Lt	684221	685221
	205Lt	684801	685801
	1000Lt	684991	685991

Synthetic, polyglycol-based lubricants for cylinder lubrication of gas compressors. Suitable for reciprocating compressors operating with LPG, LNG and other hydrocarbons. They are also suitable for hydrocarbon process gases, carbon dioxide, hydrogen, helium and nitrogen.

## SYNCOMP

SPECIFICATIONS	PACK.	CODE			
DIN 51506 VD-L, ISO 6743-3A-DAH	ISO	32	46	68	100
	20Lt	768221	772221	771221	773221
	205Lt	768801	772801	771801	773801
	1000Lt	768991	772991	771991	773991

Advanced synthetic PAO-based lubricants designed for use in all types of rotary, vane and screw type compressors. They offer superior performance, wear protection and deposit control for extremely long drain intervals of 10.000 hours.

## MINERCOMP

SPECIFICATIONS	PACK.	CODE				
DIN 51506 VD-L, ISO 6743-3A-DAH	ISO	32	46	68	100	150
	20Lt	787221	783221	781221	782221	784221
	205Lt	787801	783801	781801	782801	784801
	1000Lt	787991	783991	781991	782991	784991

Advanced synthetic PAO-based lubricants designed for use in all types of rotary, vane and screw type compressors. They offer superior performance, wear protection and deposit control for extremely long drain intervals of 10.000 hours.

## RECOM S PE

SPECIFICATIONS	PACK.	CODE			
DIN 51503 KD	ISO	32	46	68	100
	20Lt	666221	667221	668221	669221
	205Lt	666801	667801	668801	669801
	1000Lt	666991	667991	668991	669991

Advanced synthetic refrigerator compressor fluids formulated with specially selected polyol ester fluids. recommended for open, semi open and hermetic compressors in all types of applications, operating with refrigerants R134A, R23, R404A, R407C, R507 and other HFC blends.



## LUBRICANTS FOR COMPRESSORS



### RECOM AB

Synthetic alkyl benzene based refrigeration compressor lubricants for applications with evaporation temperatures lower than -45°C. they are suitable for rotary or reciprocating compressors using ammonia, CFC, Freon 12, Freon 22, Freon 502 as refrigerants.

SPECIFICATIONS	PACK.	CODE		
DIN 51503 KAA/KC	ISO	46	68	100
	20Lt	686221	770221	769221
	205Lt	686801	770801	769801
	1000Lt	686991	770991	769991

### RECOM S

Synthetic polyalphaolefin based lubricants, suitable for refrigeration compressor systems operating at very high temperatures, and harsh operating conditions in systems with very low evaporation temperatures. Suitable for refrigerants R12, R14, R22 and ammonia.

SPECIFICATIONS	PACK.	CODE		
DIN 51503 KAA/KE, ISO 6743-3A-DAJ	ISO	32	46	68
	20Lt	658221	659221	660221
	205Lt	658801	659801	660801
	1000Lt	658991	659991	660991

### RECOM M

High quality, hydrotreated, naphthenic based, refrigeration compressor lubricants suitable for rotary or reciprocating compressors using ammonia, CFC, Freon 12, Freon 22, Freon 502 as refrigerants.

SPECIFICATIONS	PACK.	CODE		
DIN 51503 KC/KA, BS 2626/92	ISO	32	46	68
	20Lt	777221	778221	780221
	205Lt	777801	778801	780801
	1000Lt	777991	778991	780991

## LUBRICANTS FOR INDUSTRIAL GEARS

### INDAGEAR SYN PG

Synthetic, polyalkylene glycol based industrial gear lubricants. They offer extremely long drain intervals, energy saving, resistance to micropitting, oxidation stability at elevated temperatures, and excellent protection at high load conditions.

SPECIFICATIONS	PACK.	CODE			
DIN 51517 Part 3 (CLP)	ISO	150	220	320	460
	20Lt	661221	662221	663221	664221
	205Lt	661801	662801	663801	664801
	1000Lt	661991	662991	663991	664991



## LUBRICANTS FOR INDUSTRIAL GEARS



### INDAGEAR SYN P

SPECIFICATIONS	PACK.	CODE				
DIN 51517 Part III (CLP), US STEEL 224, FLENDER AG, ISO 12925-1 Type CKD	ISO	68	150	220	320	460
	20Lt	670221	671221	672221	673221	674221
	205Lt	670801	671801	672801	673801	674801
	1000Lt	670991	671991	672991	673991	674991

Synthetic, polyalphaolephin glycol based industrial gear lubricants. They offer extremely long drain intervals, wear protection, resistance to micropitting, oxidation stability at elevated temperatures, and excellent protection at high load conditions.

### INDAGEAR

SPECIFICATIONS	PACK.	CODE							
ISO 6743/4 HV, DIN 51524 Part III HV, AFNOR: NFE-48603 HV, Denison HF-0, US STEEL 136.	ISO	68	100	150	220	320	460	680	1000
	20Lt	731221	732221	733221	734221	735221	736221	737221	738221
	205Lt	731801	732801	733801	734801	735801	736801	737801	738801
	1000Lt	731991	732991	733991	734991	735991	736991	737991	738991

High quality, mineral, extreme pressure (EP) lubricants designed for use in heavy duty industrial gear boxes and bearings. They offer excellent wear and corrosion protection, high load performance and low foaming tendency.

## LUBRICANTS FOR CIRCULATING SYSTEMS AND BEARINGS

### CIRCULAR B

Mineral lubricants suitable for general lubrication applications, circulation systems, vacuum pumps and gear boxes operating at low pressure. Recommended for general lubrication applications, circulation systems, lubrication tools and simple hydraulic applications.

SPECIFICATIONS	PACK.	CODE								
DIN 51524 Part 1 HL, DIN 51517 Part 1 CL	ISO	32	46	68	100	150	220	320	460	680
	20Lt	751221	752221	753221	754221	755221	756221	757221	758221	759221
	205Lt	751801	752801	753801	754801	755801	756801	757801	758801	759801
	1000Lt	751991	752991	753991	754991	755991	756991	757991	758991	759991



# LUBRICANTS FOR METALWORKING APPLICATIONS



## SYNCUT 60

High performance synthetic metalworking fluid for grinding and machining operations of ferrous and non-ferrous materials. It forms a clear and stable solution that allows full visibility. It exhibits strong bacterial resistance. It is boron and secondary amine free.

SPECIFICATIONS	PACKAGING	CODE
	20Lt	739221
	205Lt	739801
	1000Lt	739991

## SYNCUT 57

Synthetic base metalworking fluid designed to form a stable translucent microemulsion when mixed with water. Suitable for machining, cutting, drilling and grinding operations. It offers high lubricity and prolonged tool life. It is chlorine and amine free. Dilution concentrations 4-10%.

SPECIFICATIONS	PACKAGING	CODE
	20Lt	744221
	205Lt	744801
	1000Lt	744991

## SYNCUT 40

Synthetic base metalworking fluid designed to form a stable translucent microemulsion when mixed with water. Suitable for machining, cutting, drilling and grinding operations. Ensures rapid settlement of metallic fines. It is chlorine and amine free. Dilution concentrations 4-10%.

SPECIFICATIONS	PACKAGING	CODE
	20Lt	708221
	205Lt	708801
	1000Lt	708991

## SYNCUT TD

Synthetic base metalworking fluid designed to form a stable, microemulsion when mixed with water. It is designed for metal forming operations. It is ideal for steel shaping in tube forming industry. It is free of chlorine and secondary amines. Dilution concentrations 4-10%.

SPECIFICATIONS	PACKAGING	CODE
	20Lt	749221
	205Lt	749801
	1000Lt	749991

## ULAR PLUS

Mineral metalworking fluid designed to form stable milky emulsions when mixed with water. It has good bacteria resistance. Suitable for all kinds of metalworking operations. Dilution concentrations 3- 10 %.

SPECIFICATIONS	PACKAGING	CODE
ISO L-HFC.	20Lt	740221
	205Lt	740801
	1000Lt	740991



# LUBRICANTS FOR METALWORKING APPLICATIONS



## RUSTPRO DW 25

SPECIFICATIONS	PACKAGING	CODE
	20Lt	954221
	205Lt	954801
	1000Lt	954991

Water repellent and rust protective liquid for metal surfaces, designed for application in the steel industry, where corrosion protection for medium periods of storage is required.

## RUSTPRO DW 30

SPECIFICATIONS	PACKAGING	CODE
	20Lt	952221
	205Lt	952801
	1000Lt	952991

Water repellent and rust protective liquid for metal surfaces, designed for application in the steel industry, where corrosion protection for long periods of storage is required. It forms a strong tacky film after solvent evaporation.

## RUSTPRO DW 40

SPECIFICATIONS	PACKAGING	CODE
	20Lt	955221
	205Lt	955801
	1000Lt	955991

Water repellent and rust protective liquid with strong anti-corrosion properties, designed for application in the steel industry, where corrosion protection of metal surfaces for long periods of storage is required. It forms a soap type film with enhanced anti-rust performance after solvent evaporation.

## STELCAT

SPECIFICATIONS	PACKAGING	CODE	
	ISO	22	32
	20Lt	742221	743221
	205Lt	742801	743801
	1000Lt	742991	743991

High quality neat cutting oils for heavy machine working of ferrous and non-ferrous metals and their alloys. They offer excellent tool wear protection. Due to the special anti-corrosion and anti-oxidant additives, they are suitable for yellow metal operations.

## ROLLING OIL

SPECIFICATIONS	PACKAGING	CODE
	20Lt	705221
	205Lt	705801
	1000Lt	705991

Low viscosity, high purity and a high flash point oil which is used in metalworking and aluminum foil finishing. It is also used in electrical discharge machines (EDM).



## LUBRICANTS FOR METALWORKING APPLICATIONS



### STAMPING FLUID 65

High purity and low viscosity special fluid for use in stamping applications in metal forming. It is suitable for unplated steel, zinc coated steel and yellow metals.

SPECIFICATIONS	PACKAGING	CODE
	20Lt	706221
	205Lt	706801
	1000Lt	706991

### AIRTOOL

Mineral lubricants for use in rock drilling air tools that operate under high pressure and high temperatures. They are suitable for use in rock drill, cutting air tools and pneumatic tools. They form high strength oil film, and offer anti-wear and corrosion protection.

SPECIFICATIONS	PACK.	CODE		
	ISO	46	68	100
	20Lt	701221	702221	703221
	205Lt	701801	702801	703801
	1000Lt	701991	702991	703991

## LUBRICANTS FOR THE TEXTILE INDUSTRY

### TEXTOIL

Specially formulated mineral lubricants for the lubrication of knitting and sewing machines including needles, sinkers, cams, needle and sinker cylinders and spinning rings. They exhibit oxidation resistance, non dripping properties and easy scouring.

SPECIFICATIONS	PACKAGING	CODE	
	ISO	22	32
	20Lt	730221	741221
	205Lt	730801	741801
	1000Lt	730991	741991



## LUBRICANTS FOR CONCRETE MOULDS



### BT SOLUBLE OIL

SPECIFICATIONS	PACKAGING	CODE
	20Lt	745221
	205Lt	745801
	1000Lt	745991

Emulsifiable mineral lubricant for concrete moulds. It is suitable for both wooden and metallic casts.

### MOULD OIL

SPECIFICATIONS	PACKAGING	CODE	
		LD	MD
	20Lt	747221	748221
	205Lt	747801	748801
	1000Lt	747991	748991

Low viscosity special fluids for the coating of metal moulds used in concrete forming. They help detachment due to chemical action developed on the surface between concrete and metal. They may also be effectively used in wooden or plastic moulds.

## LUBRICANTS FOR SLIDEWAYS

### GARAN

SPECIFICATIONS	PACK.	CODE		
ISO 6742-13 GA/GB	ISO	68	220	320
	20Lt	762221	763221	765221
	205Lt	762801	763801	765801
	1000Lt	762991	763991	765991

High performance mineral lubricants with adhesion additives for the lubrication of industrial sliderways. They offer excellent separation from cutting emulsions, superior frictional performance and high antiwear and anti-corrosion behaviour.



## LUBRICANTS FOR AIR AND GAS TURBINES



### TURBINE F

Mineral lubricants with excellent demulsifying properties, for steam and light duty gas turbines. They offer excellent rust and corrosion protection, and superior oxidation stability.

SPECIFICATIONS	PACK.	CODE			
DIN 51515 Part 1 L-TD & Part 2 L-TG	ISO	32	46	68	100
	20Lt	790221	791221	792221	793221
	205Lt	790801	791801	792801	793801
	1000Lt	790991	791991	792991	793991

## LUBRICANTS FOR HEAT TRANSFER

### TRANSTHERM

High quality oils for heat transfer systems operating between 10 and 320°C. They have high thermal conductivity and oxidation resistance.

SPECIFICATIONS	PACKAGING	CODE	
		A	B
	TYPE		
	20Lt	795221	797221
	205Lt	795801	797801
	1000Lt	795991	797991

## LUBRICANTS FOR INDUSTRIAL CHAINS

### CHAIN OIL T

High quality, solvent based lubricant for industrial drives and transport chains. It contains special soap and polymer type additives for effective lubrication and anti-wear protection.

SPECIFICATIONS	PACKAGING	CODE
	20Lt	799221
	205Lt	799801
	1000Lt	799991



## LUBRICANTS FOR INDUSTRIAL CHAINS



### CHAINLUB HT 220

SPECIFICATIONS	PACKAGING	CODE
	20Lt	681221
	205Lt	681801
	1000Lt	681991

High performance synthetic ester based, chain lubricant designed for the lubrication of high temperature conveyor chains at temperatures up to 290°C. It is suitable for use in fiber glass, particle board production etc. It offers high anti-wear protection, low deposit formation and lubricant consumption.

## LUBRICANTS FOR METAL QUENCHING

### QUENCHING OIL

SPECIFICATIONS	PACKAGING	CODE	
	ISO	22	32
	20Lt	794221	796221
	205Lt	794801	796801
	1000Lt	794991	796991

High quality paraffinic mineral lubricants blended with special additives for steel quenching in oil baths operating at temperatures between 20 and 60°C. They ensure minimum distortion and decoloration.

## LUBRICANTS FOR TRANSFORMERS

### TRANSFORMER OIL A

SPECIFICATIONS	PACKAGING	CODE
IEC 60296 -2012 (ed. 4),ASTM D1275B	20Lt	798221
	205Lt	798801
	1000Lt	798991

Uninhibited electrical insulating oil produced from severely hydrotreated naphthenic base oils meeting IEC 60296-2012-02 Edition 4.0 Standard table-2 General Specifications. It has excellent dielectric strength, low temperature performance, and cooling properties.





**GREASES**



# LITHIUM BASE GREASES



## AUTOGREASE

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 GP00-K-20	4X4kg	810221
	15kg	810801
	180kg	810991

High performance semi-fluid grease for automotive centralised lubrication systems. It offers optimum low temperature pumpability over long distances.

## COTTONLUB

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 KP 00K-20	15kg	811801
	180kg	811991

High performance semi-fluid grease for cotton harvesting machines. It offers optimum low temperature pumpability and untroubled operation during harvesting period.

## LS

PACKAGING	CODE			
	LS-0	LS-1	LS-2	LS-3
SPECIFICATIONS	DIN 51825 K0 K-30	DIN 51825 K1 K-30	DIN 51825 K2 K-30	DIN 51825 K3 K-20
16x0,9kg			821161	822161
4X4kg			821441	822441
15kg	823201	820201	821201	822201
180kg	823801	820801	821801	822801

Multi-purpose lithium base greases with anti-wear properties for general lubrication. They are suitable for most lubrication requirements of vehicles and general industrial use.

## LS EP

PACKAGING	CODE				
	LS EP-00	LS EP-0	LS EP-1	LS EP-2	LS EP-3
SPECIFICATIONS	DIN 51825 KP00 K-30	DIN 51825 KP0 K-30	DIN 51825 KP1 K-30	DIN 51825 KP2 K-30	DIN 51825 KP3 K-20
12x0,4kg				824121	
16x0,9kg				824161	825161
4X4kg				824441	825441
15kg	826201	827201	828201	824201	825201
180kg	826801	827801	828801	824801	825801

Lithium-based greases for general use with extreme pressure (EP) additives for general lubrication. They cover most EP lubrication requirements in industry, agricultural vehicles and machinery. They are suitable for ball bearing lubrication. They are also used in centralized lubrication systems (LS EP-00).



## LITHIUM BASE GREASES



### LS 0G

Lithium-based grease with graphite for lubrication of open surface and gear lubrication. It offers excellent adhesion, water resistance and dry lubrication upon grease removal.

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 OG PF2 N-30	15kg	829801
	180kg	829991

### LS-2 M0

Multi purpose lithium based grease with Molybdenum disulfide ( $\text{MoS}_2$ ). It is suitable for general lubrication of vehicles and off-road equipment operating with vibrations. It offers efficient dry lubrication upon grease removal.

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 OG PF2 N-30	12x0,4kg	841121
	16x0,9kg	841161
	4X4kg	841441
	15kg	841201
	180kg	841801

## CALCIUM BASE GREASES

### CS

Calcium based greases with excellent adhesion to metal surfaces and high resistance to water washout. They are suitable for the lubrication of frame (chassis) of vehicles and agricultural machinery.

PACKAGING	CODE		
	CS-1	CS-2	CS-3
SPECIFICATIONS	DIN 51825 K1 E-20	DIN 51825 K2 E-20	DIN 51825 K3 E-20
15kg	830201	831201	832201
180kg	830801	831801	832801

### CS-2 G

Calcium based grease with graphite for moderate temperature applications on sliding surfaces and joints. It offers dry lubrication upon grease removal.

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 KF2 E-20	15kg	851801
	180kg	851991



## COMPLEX SOAP GREASES



**CSX**

PACKAGING	CODE		
	CSX-0/1	CSX-1/2	CSX-2
SPECIFICATIONS	DIN 51825 KP0/1 P-30	DIN 51825 KP1/2 P-30	DIN 51825 KP2 P-30
15kg	834201	833201	835201
180kg	834801	833801	835801

Premium quality, high performance calcium sulphonate complex grease, suitable for severe applications demanding high loads, high temperatures, corrosion and water resistance, excellent adhesion and thermal stability.

## LS COMP

PACKAGING	CODE				
	LS-00 COMP	LS-0 COMP	LS-1 COMP	LS-2 COMP	LS-3 COMP
SPECIFICATIONS	DIN 51825 KP00 P-30	DIN 51825 KP0 P-30	DIN 51825 KP1 P-30	DIN 51825 KP2 P-30	DIN 51825 KP3 P-30
12x0,4kg				861121	
16x0,9kg				861161	
4X4kg				861441	
15kg	857201	858201	859201	861201	862201
180kg	857801	858801	859801	861801	862801

High performance lithium complex greases with EP additives, suitable for a wide range of general purpose applications demanding EP and high temperature properties. They can be used in heavy duty wheel bearings, axles, ball joints, chains, cables etc.

## LS-2 COMP MO

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 KPF2 P-20	15kg	866801
	180kg	866991

Heavy duty, extreme pressure, lithium complex soap grease with MoS<sub>2</sub> suitable for slow moving heavily loaded large bearings subject to shock loads. It exhibits excellent mechanical stability under vibrating conditions, water resistance and superior dry lubrication.

## LS-2 COMP V

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 KP2 P-20	15kg	867801
	180kg	867991

Heavy duty, extreme pressure, lithium complex soap grease with high viscosity base oil, suitable for slow moving heavily loaded large bearings. It offers excellent mechanical stability, superior extreme pressure performance and water resistance.



## MIXED SOAP GREASES



### LCS-EP

Versatile water resistant and extreme pressure grease, based on Lithium-Calcium soap for medium to high speed bearings operating in wet environments. Suitable for agricultural and construction equipment.

PACKAGING	CODE		
	LCS-EP-1	LCS-EP-2	LCS-EP-3
SPECIFICATIONS	DIN 51825 KP1-20	DIN 51825 KP2-20	DIN 51825 KP3-20
12x0,4kg		836121	
16x0,9kg		836161	837161
4X4kg		836441	837441
15kg	838201	836201	837201
180kg	838801	836801	837801

## INORGANIC BASE GREASES

### BNT-2

Special inorganic base type (bentonite) grease with high viscosity base oils for elevated operating temperatures. Designed to provide low volatility, high resistance to oxidation and excellent stability at high temperatures.

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 : KP2 R-20	15kg	872801
	180kg	872991

### FG-2

Special inorganic base (bentonite) grease for food grade applications. It is formulated with high purity mineral white oils.

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 : KP2 R-20	15kg	871801
	180kg	871991



## POLYUREA GREASES



### LPU-2

High performance, polyurea thickened grease for high speed, high loaded rolling bearings of electrical motors and similar applications. It provides long rolling bearing life, thermal stability, and protection at elevated temperatures and wet conditions.

SPECIFICATIONS	PACKAGING	CODE
DIN 51825 : KP2 P-20	15kg	891801
	180kg	891991

## SYNTHETIC GREASES

### LS COMP SYN

Superior quality, PAO based synthetic lithium complex soap greases, combining the advantages of polyalphaolephine synthetic base fluids with high quality lithium complex soaps. They provide excellent low temperature pumpability, thermal and oxidation stability, anti-wear protection, very low starting and running torque. The lithium complex thickener provides excellent adhesion, structural stability and water resistance.

PACKAGING	CODE	
	LS-1/2 COMP SYN P	LS-2 COMP SYN
SPECIFICATIONS	DIN 51825: KPHC 1/2 N-40	DIN 51825: KPHC 2 N-30
15kg	881201	882201
180kg	881801	882801





**MARINE LUBRICANTS**





## MARITIME 430 / 440

Mineral lubricants for crankcase lubrication in cross-head marine engines.

SPECIFICATIONS	PACKAGING	CODE	
		SAE 30	SAE 40
	20Lt	421221	440221
	205Lt	421801	440801
	1000Lt	421991	440991

## MARITIME 1230 / 1240 / 1250

High quality lubricants for trunk piston engines operating on distillate fuels and light fuel blends.

SPECIFICATIONS	PACKAGING	CODE		
		SAE 30	SAE 40	SAE 50
API CF, TBN 12	20Lt	421221	440221	
	205Lt	421801	440801	
	1000Lt	421991	440991	

## MARITIME 3030 / 3040

High quality lubricants for trunk piston engines operating on up to 2% sulphur fuels.

SPECIFICATIONS	PACKAGING	CODE	
		SAE 30	SAE 40
API CF, TBN 30	20Lt	432221	442221
	205Lt	432801	442801
	1000Lt	432991	442991

## STERNTUBE OIL ISO 100 / ISO 320 / ISO 460

High performance oils for stern tube lubrication. They emulsify contaminating water and offer corrosion protection, seal compatibility and effective lubrication.

SPECIFICATIONS	PACKAGING	CODE		
		ISO VG 100	ISO VG 320	ISO VG 460
	20Lt	449221	450221	448221
	205Lt	449801	450801	448801
	1000Lt	449991	450991	448991

## MARITIME 4050 / 5070

High quality, high alkalinity mineral lubricants for cylinder lubrication in cross-head marine engines operating on high sulphur content fuels.

SPECIFICATIONS	PACKAGING	CODE	
		SAE 50/TBN 40	SAE 50/TBN 70
API CF, TBN 30	20Lt	452221	453221
	205Lt	452801	453801
	1000Lt	452991	453991



# SPECIFICATION TABLES

## API CLASSIFICATION

### PETROL ENGINES

SN	For 2011 and older automotive engines
SM	For 2010 and older automotive engines
SL	For 2004 and older automotive engines
SJ	For 2001 and older automotive engines
SH	Obsolete - For 1996 and older automotive engines
SG	Obsolete - For 1993 and older automotive engines
SF	Obsolete - For 1988 and older automotive engines

### DIESEL ENGINES

CJ-4	Introduced on 2010 for high speed 4-stroke engine, designed to meet 2010 emissions standards. CJ-4 exceeds the performance criteria of CI-4, CH-4, CG-4 and CF-4.
CI-4	Introduced on 2002 for high speed 4-stroke engine, designed to meet 2004 exhaust emissions standards. Can be used in place of CD, CE, CF-4, CG-4 and CH-4 oils
CH-4	Introduced on 1998 for high speed 4-stroke engine, designed to meet 1998 exhaust emissions standards. Can be used in place of CD, CE, CF-4 and CG-4 oils
CD	Obsolete - For normal and turbocharged automotive engines
CF-4	Introduced on 1990 for high speed 4-stroke engine, for normal and turbocharged automotive engines
CG-4	Obsolete - For engines designed to meet 1994 exhaust emissions standards. Can be used in place of CD, CE, CF-4 oils
CF-2	Obsolete - For two stroke engines
API CK-4	Introduced on 2016, designed to meet 2017 vehicles emissions standards. CK-4 exceeds CJ-4 and most older engine oil qualities.

## ACEA CLASSIFICATION

### PETROL ENGINES

A1/B1	Stable, stay-in-grade oil intended for use at extended drain intervals in gasoline engines and car & light van diesel engines specifically designed to be capable of using low friction low viscosity oils with a high temperature / high shear rate viscosity of 2.6 mPa.s for xW/20 and 2.9 to 3.5 mPa.s for all other viscosity grades. (removed since 2016)
A3/B3	Stable, stay-in-grade oil intended for use in high performance gasoline engines and car & light van diesel engines and/or for extended drain intervals where specified by the engine manufacturer, and/or for year-round use of low viscosity oils, and/or for severe operating conditions as defined by the engine manufacturer.
A3/B4	Stable, stay-in-grade oil intended for use in high performance gasoline and direct injection diesel engines, but also suitable for applications described under A3/B3.
A5/B5	Stable, stay-in-grade oil intended for use at extended drain intervals in high performance gasoline engines and car & light van diesel engines designed to be capable of using low friction low viscosity oils with a High temperature / High shear rate (HTHS) viscosity of 2.9 to 3.5 mPa.s
C1	Stable, stay-in-grade oil intended for use as catalyst compatible oil in vehicles with DPF and TWC in high performance car and light van diesel and gasoline engines requiring low friction, low viscosity, low SAPS oils with a minimum HTHS viscosity of 2.9 mPa.s. These oils will increase the DPF and TWC life and maintain the vehicles fuel economy.
C2	Stable, stay-in-grade oil intended for use as catalyst compatible oil in vehicles with DPF and TWC in high performance car and light van diesel and gasoline engines designed to be capable of using low friction, low viscosity oils with a minimum HTHS viscosity of 2.9mPa.s. These oils will increase the DPF and TWC life and maintain the vehicles fuel economy.
C3	Stable, stay-in-grade oil intended for use as catalyst compatible oil in vehicles with DPF and TWC in high performance car and light van diesel and gasoline engines, with a minimum HTHS viscosity of 3.5mPa.s. These oils will increase the DPF and TWC life.
C4	Stable, stay-in-grade oil intended for use as catalyst compatible oil in vehicles with DPF and TWC in high performance car and light van diesel and gasoline engines requiring low SAPS oil with a minimum HTHS viscosity of 3.5mPa.s. These oils will increase the DPF and TWC life
C5	Mid SAPS, low viscosity oils with HTHS >2,6 mPa & <2,9 mPa, demanding 2% higher fuel economy than C3. Replaces the removed A1/B1 specification. C5 oils increase the DPF and TWC life.

### DIESEL ENGINES

E4	Stable, stay-in-grade oil providing excellent control of piston cleanliness, wear, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV and Euro V emission requirements and running under very severe conditions, e.g. significantly extended oil drain intervals according to the manufacturer's recommendations. It is suitable for engines without particulate filters, and for some EGR engines and some engines fitted with SCR NOx reduction systems.
E6	Stable, stay-in-grade oil providing excellent control of piston cleanliness, wear, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV and Euro V emission requirements and running under very severe conditions, e.g. significantly extended oil drain intervals according to the manufacturer's recommendations. It is suitable for EGR engines, with or without particulate filters, and for engines fitted with SCR NOx reduction systems. E6 quality is strongly recommended for engines fitted with particulate filters and is designed for use in combination with low sulphur diesel fuel.
E7	Stable, stay-in-grade oil providing effective control with respect to piston cleanliness and bore polishing. It further provides excellent wear control, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV and Euro V emission requirements and running under severe conditions, e.g. extended oil drain intervals according to the manufacturer's recommendations. It is suitable for engines without particulate filters, and for most EGR engines and most engines fitted with SCR NOx reduction systems.
E9	Stable, stay-in-grade oil providing effective control with respect to piston cleanliness and bore polishing. It further provides excellent wear control, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV and Euro V emission requirements and running under severe conditions, e.g. extended oil drain intervals according to the manufacturer's recommendations. It is suitable for engines with or without particulate filters, and for most EGR engines and for most engines fitted with SCR NOx reduction systems. E9 is strongly recommended for engines fitted with particulate filters and is designed for use in combination with low sulphur diesel fuel.



# OEM SPECIFICATIONS

BMW	
<b>BMW Longlife-98 (BMW LL-98):</b>	Special long-life engine oil, approved by BMW. Also meets ACEA A3/B3, API SJ/CD, EC SAE 5W-40. Usually required for BMWs manufactured before MY 2002. Obsolete since 2009.
<b>BMW Longlife-01 (BMW LL-01):</b>	Special BMW approval for fully synthetic long-life oil. Product meets ACEA A3/B3 and API: SJ/CD EC-II. Usually required for BMWs built after MY 2002. Can also be used where a BMW Longlife-98 oil is recommended.
<b>BMW Longlife-01 FE (BMW LL-01 FE):</b>	Fully synthetic long-life oil with fuel economy properties. Oils meeting this specifications must have a low HTHS viscosity to meet the manufacturer's fuel economy requirements. These oils are only suitable for the following engines: N1x, N2x, N54, N55, N63, N74.
<b>BMW Longlife-04 (BMW LL-04):</b>	Special BMW approval for fully synthetic long-life oil. Viscosities are SAE 0W-30, 0W-40, 5W-30 and 5W-40. Usually required for BMWs equipped with a diesel particulate filter (DPF). Can also be used where a BMW Longlife-98 or BMW Longlife-01 oil is recommended.
<b>BMW Longlife-12 (BMW LL-12):</b>	Special motor oil for certain approved gasoline engines and the following diesel engines only: Nx7K1, Nx7U1, Nx701 from model year 2013. Not suitable for engines with 2 or 3 turbos.
<b>BMW Longlife-14+ (BMW LL-14+):</b>	Special motor oil for the following gasoline engines only: N20, Bx8 from model year 2014. Not allowed for diesel engines.
FORD	
<b>Ford WSS-M2C913-A:</b>	Engine oil, Initial and service fill, SAE 5W-30. This specification meets the ILSAC GF-2 and ACEA A1-98 and B1-98 and additional Ford requirements.
<b>Ford WSS-M2C913-B:</b>	The Ford M2C913-B specification is released in Europe for initial fill engine oils used for lubrication of spark ignition engines using gasoline and for compression ignition engines using diesel fuels. The specification is also used to define engine oils for servicing Ford engines where applicable. The oil shall meet all the requirements of the ILSAC GF-2 and GF-3 specification, the ACEA A1-98 and B1-98 specification and additional Ford requirements.
<b>Ford WSS-M2C913-C:</b>	Fully backwards compatible and is strongly recommended for all applications that currently require the specification Ford M2C913-B. The new engine oil provides various benefits to the customer such as improved fuel economy benefits and high robustness to biodiesel fuels.
<b>Ford WSS-M2C913-D:</b>	Introduced in 2012, oils meeting this specification are recommended for all Ford diesel engines except Ford Ka TDCi models manufactured before 2009 and Ford Galaxy 1.9 TDi models manufactured between 2000 and 2006. A product meeting this specification is especially recommended for diesel engines where M2C913-B or M2C913-C oils were initially required. An oil meeting this specification must be used in Ford Transit vehicles manufactured from 2012 onward with Duratorq 2.2 engine. Oils meeting this specification can be used with extended oil change intervals and are also suitable to be used in engines running on biodiesel or high sulfur diesel.
<b>Ford WSS-M2C917-A:</b>	Viscosity SAE 5W40 engine oil for pump injector diesel engines.
<b>Ford WSS-M2C934-A:</b>	Extended drain engine oil for vehicles equipped with diesel particulate filter (DPF).
<b>Ford WSS-M2C937-A:</b>	Special engine oil for Ford Focus RS. Viscosity should be SAE 0W-40.
<b>Ford WSS-M2C948-B:</b>	Largely based on the ACEA C2 oil sequence this spec requires a low SAPS 5W20 oil and is primarily designed for the 1.0 liter, 3-cylinder EcoBoost engine. Contains in-house tests for fuel economy and piston deposit control. Oils meeting this spec must provide a 0.9% fuel economy improvement over regular 5W-20 oils.
<b>Ford WSS-M2C950-A:</b>	Special engine oil for Ford Focus Diesel 2.0 manufactured from September 2014 and Ford Mondeo Diesel 2.0 manufactured from 2015. Viscosity should be SAE 0W-30.
MERCEDES	
The name of the MB specifications derives from the Mercedes Bluebook scheme, divided by numbered paragraphs and pages. It is used by dealers to identify the products certified by the manufacturer and their correct application on the engines.	
<b>MB 226.5:</b>	This specification is required for Mercedes vehicles with gasoline engines supplied by the Renault-Nissan Alliance. Specification requirements are similar to MB 229.5.
<b>MB 226.51:</b>	This specification is based on RN0720 and is recommended for Mercedes vehicles with DPF fitted diesel engines supplied by Renault. Oils meeting this specification have very good thermal stability and aftertreatment compatibility.
<b>MB 229.1:</b>	For petrol and diesel engines. Minimum quality required ACEA A2/B2 with additional limits on engine.
<b>MB 229.3:</b>	For petrol and diesel engines. Minimum quality required ACEA A3 / B3 / B4 and MB 229.1. It can only certify 0/ 5 W-x oils.
<b>MB 229.31:</b>	Multigrade, low SAPS engine oil, advised for both diesel and petrol engines of Mercedes Benz, Smart and Chrysler. Only low viscosity engine oils which can realize a 1,0% saving on used fuel in the M111 Fuel economy test (CEC L-54-T-96) can get this approval. In this test the fuel savings are compared to the performance of the Reference oil RL 191 (SAE 15W-40).
<b>MB 229.5:</b>	MB sheet for energy conserving oils for certain car and van engines. Approved oils must meet ACEA A3, B3 and B4 specification and some additional demands by Daimler Chrysler AG. Oil must be on the approval list.
<b>MB 229.51:</b>	Low SAPS Long Life engine oil for diesel engines with particle filter meeting emission EU-4 -> standards.
<b>MB 229.52:</b>	Oils meeting this specifications must have lower ash content, at least 1% better fuel economy compared to the requirements of MB 229.31 and MB 229.51 and better oxidation stability for biofuel compatibility. Can also be used where an MB 229.31 or an MB 229.51 oil is required. Just like MB 229.5 and MB 229.51 this spec requires a long life oil.
<b>MB 228.1:</b>	For high performance diesel engines.
<b>MB 228.3:</b>	High efficiency lubricants (SHPD) for turbo charged HD diesel engines. Extended drain intervals up to 45,000 km.
<b>MB 228.31:</b>	Similar to 228.3 but for HD diesel engines with Bleutec particulate filters (DPF).
<b>MB 228.5:</b>	Ultra high efficiency lubricants (UHPD) for turbo charged HD diesel engines. Extended drain intervals up to 100,000 km.
<b>MB 228.51:</b>	Similar to 228.5 but for Euro 4 and newer HD diesel engines with BlueTec particulate filters (DPF).
MAN	
<b>MAN M 3275:</b>	High efficiency lubricants (SHPD) for turbo charged HD diesel engines. Extended drain intervals up to 45,000 km.
<b>MAN M 3277:</b>	Ultra high efficiency lubricants (UHPD) for turbo charged HD diesel engines. Extended drain intervals up to 100,000 km.
<b>MAN M 3575:</b>	Similar to M 3275 but for HD diesel engines with particle filters (DPF).
<b>MAN M 3477:</b>	Ultra high efficiency lubricants (UHPD) for Euro IV and Euro V HD diesel engines equipped with DPF. Extended drain intervals up to 100,000 km.
<b>MAN M 3677:</b>	Ultra high efficiency lubricants (UHPD) for Euro VI HD diesel engines equipped with DPF. Extended drain intervals up to 100,000 km and fuel economy.



# OEM SPECIFICATIONS

## VOLKSWAGEN GROUP

- VW 500.00:** Volkswagen specification for multigrade engine oils for gasoline engines with SAE 5W-X/10W-X viscosity. This is an "old" oil specification and is applicable to engines built before model year 2000 (up to August 1999). Oils with an approval made post March 1997 were given an alternative, later VW specification.
- VW 501.01:** Conventional motor oils suitable for some VW engines built before MY 2000. This is an "old" oil specification and is applicable to engines built before model year 2000 (up to August 1999). Oils with an approval made post March 1997 were given an alternative, later VW specification.
- VW 502.00:** Oil for gasoline engines. Successor of VW 501.01 and VW 500.00 specification. Recommended for those which are subject to arduous conditions. It must not be used for any engines with variable service intervals or any which are referred to under other specifications.
- VW 503.00:** Long-life gasoline engine oil for VW cars with WIV (system for longer service intervals). Also meets ACEA A1, SAE 0W-30 or 5W-30 specification.
- VW 503.01:** This specification is specifically for Audi RS4, Audi TT, S3 and Audi A8 6.0 V12 models with outputs of more than 180bhp, running with variable service intervals (30,000km or 2 years). Now superceded by the VW 504.00 specification.
- VW 504.00:** The VW 504 00 specification supercedes the VW 503 00 and VW 503.01 specifications. VW 504 00 oils are suitable for engines meeting the demands of Euro IV emissions standards.
- VW 505.00:** Passenger car diesel engine oil specification, minimum performance level CCMC PD-2. Lists viscosities SAE 5W-50, 10W-50/60, 15W-40/50, 20W-40/50 requiring 13% max. evaporation loss and SAE 5W-30/40, 10W-30/40 requiring 15% max. evaporation loss.
- VW 505.01:** Special engine oil for VW turbodiesel engines with pump-injector-unit and for the V8 Commonrail turbodiesel engines. Meets ACEA B4 SAE 5W-40 specification.
- VW 506.00:** These oils are suitable for diesel engines with extended service intervals of up to 50,000km / 2 years. Not for use on engines with a single injector pump. Oil change is indicated by the electronic service indicator. Viscosity is SAE 0W30.
- VW 506.01:** These oils are especially for "Pumpe-Düse" (unit injector or "PD" engines) running on extended service intervals (30,000 - 50,000km / 24 months). Oil change is indicated by the electronic service indicator.
- VW 507.00:** Low SAPS oils suitable for Euro 4 engines and almost all VAG diesel engines from 2000 onwards with extended service intervals, unitary injector pumps and also Pumpe-Düse ("PD") engines. Excludes V10, R5 engines and VW Commercial vehicles without fitted DPF (diesel particulate filters) – these must use a 506 01 specification oil.
- VW 508.00/509.00:** This specification combo (508.00 for petrol, 509.00 for diesel) requires a 0W20 viscosity, fuel economy oil with long life additives. These specifications are NOT backward compatible with the earlier VW specifications. Recommended for the new 2.0 TFSI 140 kW and 3.0 TDI CR 160 kW VW/Audi engines.

## PSA GROUP

The French PSA group issued a set of oil specifications in 2009 in order to exercise greater control over the motor oils used in their vehicles. All specifications are based on ACEA specs but also require further conditions to be met.

- PSA B71 2290:** Peugeot/Citroën engine oil specification introduced in 2009. B71 2290 is a low-SAPS oil intended for engines with diesel particulate filters and with Euro 5 emission standards. General specifications are: ACEA C2 or C3 with additional PSA tests.
- PSA B71 2294:** Peugeot/Citroën engine oil specification introduced in 2009. Main specification: ACEA A3/B4 with additional PSA tests.
- PSA B71 2295:** Peugeot/Citroën engine oil standard for engine before MY 1998. General specification: ACEA A2/B2.
- PSA B71 2296:** Peugeot/Citroën engine oil specification introduced in 2009. General specifications: ACEA A3/B4 + additional PSA tests.
- PSA B71 2312:** Peugeot Citroën has developed B71 2312 standard for oils able to endure the most severe thermal constraints along with most modern after treatment systems compatibility. The PSA B71 2312 standard applies to all Peugeot and Citroën vehicles equipped with "BlueHDi" Diesel engines fitted with SCR (Selective Catalyst Reduction) allowing NOx (Nitrous oxides) treatment through the use of AdBlue® additive or so-called "diesel exhaust fluid". The standard also requires improved cold flow properties to reduce hydrodynamic friction of the oil, in order to obtain fuel economy benefits especially when the oil is cold. This extra requirement for cold flow properties allows excellent oil flow at start up, faster oil pressure build up, faster revs raisings and faster operating temperature reach. This type of low viscosity lubricant allows fuel consumption reduction and therefore reduces greenhouse gases (CO2) emissions.

## RENAULT

- Renault RN0700:** Renault engine oil specification; introduced in 2007 upon introduction of the Laguna III. General requirements: ACEA A3/B4 or ACEA A5/B5.
- Renault RN0710:** Renault engine oil specification; introduced in 2007 upon introduction of the Laguna III. General requirements: ACEA A3/B4 + additional Renault demands.
- Renault RN0720:** Renault engine oil specification; introduced in 2007 upon introduction of the Laguna III. General requirements: ACEA C3 + additional Renault demands. RN0720 is designed for use in the latest generation diesel engines equipped with DPF.

## GM/OPEL

- GM Dexos approved oils are recommended to be used in all GM vehicles except those built with Duramax diesel engines that require an API CJ-4 quality oil.**
- GM Dexos 1:** Designed with gasoline engines in mind GM Dexos 1 replaces the GM-LL-A-025, GM6094M and GM4718M specifications. This specification is usually recommended for GM vehicles built for the North American and Asian markets. Compared to ILSAC GF-5 it has stricter requirements regarding piston deposit formation, aeration, oxidation stability, wear, low-temperature pumpability and volatility.
- GM Dexos 2:** The GM Dexos 2 specification is meant to be the replacement for both GM-LL-A-025 (gasoline) and GM-LL-B-025 (diesel) specifications for the European market. Oils meeting GM Dexos 2 are required for vehicles manufactured from MY2011 onward but they are also backward compatible with older models. This specification is built on the ACEA C3 standard but also contains elements from the ILSAC GF-4 deposit formation test and low-temperature sludge build-up test.

### OPEL Motor Oil Specifications

- GM-LL-A-025:** Special GM approval for long-life engine oil for gasoline engines. Viscosity is SAE 0W-30. Product meets ACEA A3/B3. Drain interval can be as long as 30 000 kms. Recommended for vehicles built before MY2011.
- GM-LL-B-025:** Special GM approval for long-life engine oil for diesel engines. Viscosity is SAE 5W-40. Product meets ACEA A3/B3/B4. Drain interval can be as long as 50 000 kms. Recommended for vehicles built before MY2011.

## JASO

### 2T specifications

Japanese motorcycle manufacturers found the limits demanded by the API TC specifications too loose. Oils meeting the API TC standard still produced excessive smoke and could not prevent exhaust blocking. Therefore the Japanese Engine Oil Standards Implementation Panel (JASO) introduced the following specifications:

- JASO FA:** Original spec established regulating lubricity, detergency, initial torque, exhaust smoke and exhaust system blocking.
- JASO FB:** Increased lubricity, detergency, exhaust smoke and exhaust system blocking requirements over FA.
- JASO FC:** Lubricity and initial torque requirements same as FB, however far higher detergency, exhaust smoke and exhaust system blocking requirements over FB.
- JASO FD:** Same as FC with far higher detergency requirement.

### 4T specifications

Modern passenger car engine oils contain more and more friction modifiers. While this is the good thing for those segments (reduces wear and fuel consumption) it's bad for the motorcycles. At least for those motorcycles which use engine oil to lubricate their transmission and wet clutch. JASO introduced the MA and MB specification to distinguish between friction modified and non friction modified engine oils. Most four-stroke motorcycles with wet clutches need a JASO MA oil.

- JASO MA:** Japanese standard for special oil which can be used in 4-stroke motorcycle engine with one oil system for engine, gearbox and wet clutch system. Fluid is non-friction modified.
- JASO MB:** MB grade oils are classified as the lowest friction oils among motorcycle four-cycle oils. Not to be used where a JASO MA grade oil is required





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